

EXHIBIT 1

CURRICULUM VITA OF ALAIN DELCAYRE, PH.D.

Synopsis of career progression

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|-------------|--|---|---|
| Since 2005: | <i>BN ImmunoTherapeutics</i> | Senior Director of Research Director of Research | since 2009 2005-2008 |
| 2000-2005: | <i>Anosys Inc.</i> <i>(formerly AP Cells Inc.)</i> | Vice President, R&D Director of Research Senior Scientist II / Project Leader | (2004-2005) (2002-2003) (2000-2001) |
| 1994-1999: | <i>Genesis R&D Corp. Ltd</i> | Senior Investigator/Project Leader Senior Staff Scientist II/Project Leader Senior Staff Scientist I/Project Leader | (1998-1999) (1996-1998) (1995-1996) |
| 1989-1994: | <i>CIBR/Stratagene</i> | Senior Research Associate Staff Scientist (<i>Stratagene</i>) Postdoctorate Research Associate | (1993-1994) (1991-1992) (1989-1990) |
| 1983-1989 : | <i>Université Paris VI</i> <i>INSERM, U. 23</i> <i>École Polytechnique</i> | Ph.D. Graduation Predoctorate Student DEA graduation (Masters) | (1989) (1985-1989) (1983-1984) |

MOST RECENT JOB RESPONSIBILITIES, QUALIFICATIONS & ABILITIES

Since 2005: **BN ImmunoTherapeutics, Mountain View, CA** (Subsidiary of Bavarian Nordic).

- Set up the Research department and GMP laboratory for R&D activities in the field of poxvirus-based cancer vaccines
- Supervision/management of preclinical cancer research, product development and immunomonitoring programs.
- Head of QC for product release assays developed and performed on site.
- Collaboration with QA, Regulatory Affairs and Medical Affairs; participation to IND submission and discussion with US and European regulatory institutions.
- Safety Officer

2000-2005: **Anosys Inc. (formerly AP Cells, Inc.), Menlo Park, CA**

- Supervised an R&D team assigned to support the company's lead product (autologous Dexosome vaccine) through Phase I and in preparation for Phase II cancer trials.

- Coordinated operations related to product characterization and assay & protocol development. Worked in collaboration with QA, QC, Regulatory Affairs and Medical Affairs.
- Initiated novel research projects and developed an exosome-based technology platform to broaden the company's pipeline of products.
- Established collaborations with corporate partners and academic groups. Presented and promoted Anosys technologies to partners, investors and potential customers.
- Set up new Groups/Departments (Molecular Biology Group of 4; Business Unit of 8).

1994-1999: Genesis R&D Corporation LTD, Auckland, New Zealand

- Contributed to the launching of a Forestry research program and of a corporate partnership between the New Zealand Forestry industry and Genesis.
- Supervised multi-disciplinary teams successively or concomitantly with projects in the fields of Plant Genomics, Vaccine and Immunotherapy.
- Set up new Groups/Departments (Molecular Expression; Forestry).

MAIN SCIENTIFIC ACHIEVEMENTS IN BIOTECHNOLOGY INDUSTRY

- Managed R&D programs to 1) establish proof-of concept experiments for submission of two IND applications for MVA-based vaccine evaluation in breast and prostate cancer patients, 2) monitor immune responses in cancer patients and 3) develop release assays for vaccines in clinical development.
- Developed a technology platform, called Exosome Display, with applications for the generation of antibodies against difficult targets and the development of improved genetic vaccines.
- Generated a panel of novel anti-exosome antibodies with applications as research and diagnostic tools. Some of these antibodies are also potential therapeutic tools as they may be used to block the exosome pathway.
- Designed a RT-PCR-based MAGE assay for the screening of cancer patients entering Anosys phase I lung cancer clinical trial.
- Designed and developed a multi-epitope vaccine against *M. tuberculosis* up to preclinical phase using a novel genome-wide approach for epitope screening.
- Contributed to the characterization of Autologous Dexosome vaccine and *PVAC* tested in the clinic for the treatment of cancer and *psoriasis*, respectively.
- Other innovative approaches designed when addressing new scientific challenges include:
 - ✓ A genome-wide approach to identify mycobacterial adjuvants
 - ✓ A PCR-based screening assay to identify secreted proteins from woody plants
 - ✓ A method to screen ligand-specific receptor isoforms using anti-idiotypic antibodies

PATENTS

- ✓ Delcayre, A., Laus, R., Mandl, S, Legrand F. & Rountree, R.. Use of MVA to treat prostate cancer. (*Appl.20090104225; allowed, patent issuance pending*)
- ✓ Delcayre, A., Laus, R. & Mandl, S.. Methods for treating cancer with MVA (*Appl. 2008021330; prosecution in progress*)
- ✓ Delcayre, A. and Le Pecq, J-B. Exosome ligands, their preparation and uses (*Appl.20090148460 Provisional submission; abandoned*).
- ✓ Delcayre, A., and Le Pecq, J-B. (WO 2004/073319). Methods and compounds for raising antibodies and screening antibody repertoires (*Appl. 20060222654; prosecution in progress*).
- ✓ Delcayre, A. and Le Pecq, J-B. US Patents 7,704,964 Methods and compounds for the targeting of proteins to exosomes.
- ✓ Delcayre, A. US Patents 6,436,898, 6,358,734, 7,192,590, & 7,041,295. Compounds for the treatment of infectious and immune system disorders and methods for their use.
- ✓ Delcayre, A. US Patents 6,716,430 & 6,361,776. Compounds isolated from *M. vaccae* and their use in the modulation of immune responses.

PUBLICATIONS

- ✓ Li, Z, Ling L, Liu X, Laus R and Delcayre A. A flow cytometry-based immune-titration assay for rapid and accurate titer determination of modified vaccinia Ankara virus vectors. *J Virol. Methods* (2010) *in press*.
- ✓ Zeelenberg IS, Ostrowski M, Krumeich S, Bobrie A, Jancic C, Boissonnas A, Delcayre A., Le Pecq JB, Combadière B, Amigorena S, Théry C. Targeting tumor antigens to secreted membrane vesicles in vivo induces efficient antitumor immune responses. *Cancer Res.* 2008 Feb 15;68(4):1228-35.
- ✓ Estelles, A., Sperinde, J. Roulon, R., Aguilar, B. Bonner, C., Le Pecq, J.B and Delcayre, A. Exosome nanovesicles displaying G protein-coupled receptors for drug delivery. *Int. J. Nanomedicine* 2007, 2(4):751-760.
- ✓ Delcayre, A. and Le Pecq, JB. Exosomes as novel therapeutic nanodevices. *Current Opinion in Molecular Therapies* 2006, 8(1):31-38.
- ✓ Delcayre, A., Estelles, A., Sperinde, J., Roulon, T., Paz, P., Aguilar, B., Villanueva, J. and Le Pecq, JB. Exosome Display Technology: Applications to the Development of Novel Diagnostics and Therapeutics. *Blood Cells, Molecules and Diseases* 2005, 35(2):158-168.
- ✓ Delcayre, A., Shu, H. and Le Pecq, JB. Dendritic cells-derived exosomes in cancer immunotherapy: Exploiting Nature's antigen delivery pathway. *Expert Rev. of Anticancer Therapy* 2005, 5(3):537-547.
- ✓ Silvestre, J.S., Théry, C., Hamard, G., Boddaert, J., Aguilar, B., Delcayre, A., Houbbron, C., Tamarat, R., Clergue, M., Duriez, M., Merval, R., Lévy, B., Tedgui, A., Amigorena, S. and Mallat, Z. Lactadherin/MFG-E8: a novel angiogenic protein required for VEGF signalling. *Nature Med.* 2005, 11(5):499-506.
- ✓ Morse, M.A., Garst, J., Osada, T., Khan, S., Hobeika, A., Clay, T.M., Valente, N., Shreeniwas, R., Sutton, M.A., Delcayre, A., Hsu, D.H., Le Pecq, J.B. and Lyster, H.B. A Phase I Study of Dexosome Immunotherapy in Patients with Advanced Non-Small Cell Lung Cancer. *J. Transl. Med.* 2005, 3:9-16.

- ✓ **Delcayre, A.**, Peake, J.S., White, D.J., Yuan, S., MacDonald, M.K., Liang, A., Tan, P.L. and Watson, J.D. A genome-based functional screening approach to vaccine development combining *in vitro* assays and DNA immunization. *Vaccine* 2003, 21:3259-3264.
- ✓ **Delcayre, A.**, Lotz, M. and Lernhardt, W. Inhibition of Epstein-Barr virus-mediated capping of CD21/CR2 by interferon- α : immediate anti-viral activity of IFN α during the early phase of infection. *J. Virol.* 1993, 67:2918-2921.
- ✓ **Delcayre, A.**, Salas, F., Mathur, S., Kovats, K., Lotz, M. and Lernhardt, W. (1991) Epstein-Barr virus/Complement C3d receptor is an Interferon α receptor. *EMBO J.* 10, 919-926.
- ✓ Salas, F., Kovats, K., Mathur, S., Sakamoto, B., Benitez, M.R., **Delcayre, A.**, and Lernhardt, W. (1989) Production of complement component C3 by lymphoid cell lines: Possible function of C3 fragments as autocrine growth regulators. In *Progress in Immunology*, Vol. VII. Springer-Verlag, Berlin, 202-204.
- ✓ **Delcayre, A.**, Fiandino, A., Lyamani, F., Barel, M., and Frade, R. (1989) Enhancement of Epstein-Barr virus/C3d receptor (CR2) and nuclear p120 ribonucleoprotein phosphorylation by specific EBV/C3dR ligands in subcellular fractions of the human B lymphoma cell line, Raji. *Biochem. Biophys. Res. Comm.* 159, 1213-1220.
- ✓ Barel, M., Fiandino, A., **Delcayre, A.**, Lyamani, F., and Frade, R. (1988) Anti-idiotypic anti-Epstein-Barr virus/C3d receptor (EBV-C3dR) antibodies detect two distinct binding sites, one for Epstein-Barr virus and one for C3d on gp140, the EBV-C3dR, expressed on human B lymphocytes. *J. Immunol.* 141, 1590-95.
- ✓ **Delcayre, A.**, Fiandino, A., Barel, M. and Frade, R. (1987) Gp140, the EBV-C3d receptor (CR2) of human B lymphocytes is involved in cell-free phosphorylation of p120, a nuclear ribonucleoprotein. *Eur. J. Immunol.* 17, 1827-1833.